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For Petitioners DeltaKeeper and San Francisco BayKeeper (projects of WaterKeepers Northern California), Natural Resources Defense Council, Environment California, The Ocean Conservancy, and California Sportfishing Protection Alliance

BEFORE THE STATE WATER RESOURCES CONTROL BOARD

In the Matter of Conditional Waiver of Reporting and Waste Discharge Requirements for Discharges from Irrigated Lands, California Regional Water Quality Control Board – Central Valley Region Resolution No. R5-2003-0105, Resolution No. R5-2003-0103, Order No. R5-2003-0826; and, Order No. R5-2003-0827	**SUPPLEMENTAL PETITION FOR SWRCB/OCC FILE A-1586(f)**

Pursuant to Section 13320 of the California Water Code and Section 2050 of Title 23 of the California Code of Regulations ("CCR"), DeltaKeeper and San Francisco BayKeeper (projects of WaterKeepers Northern California), Natural Resources Defense Council, Environment California, The Ocean Conservancy, and California Sportfishing Protection Alliance (collectively "Petitioners") petitioned the State Water Resources Control Board ("State Board") to review and vacate the final decision of the California Regional Water Quality Control Board for the Central Valley Region ("Regional Board"), which adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands on July 11, 2003. *See* Resolution No. R5-2003-0105, ("July Resolution"), Order No. R5-2003-0826, Order No. R5-2003-0827 (setting forth monitoring requirements). This petition supplements the request for review submitted by Petitioners to the State Board on August 11, 2003.

1. NAMES AND ADDRESSES OF PETITIONERS:

Please see August 11, 2003 Petition.

2. THE SPECIFIC ACTION OR INACTION OF THE REGIONAL BOARD WHICH THE STATE BOARD IS REQUESTED TO REVIEW AND A COPY OF ANY ORDER OR RESOLUTION OF THE REGIONAL BOARD WHICH IS REFERRED TO IN THE PETITION:

Please see August 11, 2003 Petition.

3. THE DATE ON WHICH THE REGIONAL BOARD ACTED OR REFUSED TO ACT OR ON WHICH THE REGIONAL BOARD WAS REQUESTED TO ACT:

July 10/11, 2003.

4. A FULL AND COMPLETE STATEMENT OF THE REASONS THE ACTION OR FAILURE TO ACT WAS INAPPROPRIATE OR IMPROPER:

Regional Board staff and members ignored repeated technical comments and recommendations by acknowledged experts throughout the nine month period spanning the December 2002, April 2003 and July 2003 hearings on the various waiver proposals made by the Board/staff. These comments include letters from Dr. G. Fred Lee and Dr. Anne Jones-Lee (14 April 2003, 20 May 2003 and 3 July 2003): Dr. Susan Kegley (21 November 2002, 24 May 2003 and 7 July 2003); Dr. Charles Benbrook (20 November 2002 and 23 May 2003); Steven Bond (26 May 2003 and 7 July 2003); Terry Strange (24 May 2003 and 2 July 2003); Dave Paradies (23 May 2003 and 7 July 2003) and Dr. Gina M. Solomon (23 May 2003).

Dr. Benbrook was the agricultural staff expert for the White House Council for Environmental Quality, Executive Director of the Subcommittee of the House Committee on Agriculture and Executive Director of the Board on Agriculture of the National Academy of Sciences before establishing Benbrook Consultant Services. Drs. Lee and Jones-Lee (hereinafter Dr. Lee) are acknowledged experts in chemical fate and transport and development of monitoring plans who authored three recent reports for the Central Valley Regional Board including *Issues in Developing a Water Quality Monitoring Program for Evaluation of the Water Quality - Beneficial Use Impacts of Stormwater Runoff and Irrigation Water Discharges from Irrigated Agriculture in the Central Valley, CA*. (2002) and *A Review of Management Practices for Controlling the Water Quality Impacts of Potential Pollutants in Irrigated Agriculture Stormwater Runoff and Tailwater Discharges* (2002) and *Organochlorine Pesticide, PCB and Dioxin/Furan Excessive Bioaccumulation Management Guidance* (2002). Dr Kegley is a chemist with twenty years of expertise in contaminant fate, transport and health effects and the principle author of *Disrupting the Balance: Ecological Impacts of Pesticides in California*. Steven Bond is a registered geologist and certified hydrogeologist who spent eleven years with

the Central Valley Regional Board evaluating contaminant water chemistry, monitoring plans and remedial activities. Terry Strange is a certified fisheries biologist and entomologist with over twenty years experience in evaluating impacts to aquatic and riparian ecosystems and developing remedial plans. Dave Paradies has over twenty years experience in addressing non-point source pollution and developing monitoring programs and QA/QC plans. Dr. Gina Solomon is a medical doctor and researcher whose work is primarily focused on toxic chemicals in the environment and their impacts on human health. She has authored numerous publications including the chapter on Pesticides in the American Academy of Pediatrics *Handbook of Pediatric Environmental Health*.

These technical comments address serious inadequacies of the proposed and subsequently adopted monitoring plans and waiver. Astonishingly, not once did Regional Board staff or Board Members respond, verbally or in writing, to the concerns and explicit recommendations of these experts. Petitioners have never before encountered a situation in a regulatory proceeding where the entire body of expert opinion has been ignored without acknowledgement or response. These expert comments and analyses stand unanswered and unrebutted in the record of this proceeding. Below, we have excerpted remarks from the submittals of these expert commentators to use their own words to describe the grievous inadequacy of the adopted waiver and monitoring program. These expert comments supplement and buttress the extensive testimony by petitioners, petitioners' legal representatives and thousands of concerned citizens and organizations throughout the state.

Regional Board Members also ignored and rejected the repeated, explicit observations and recommendations of their own staff with respect to minimum monitoring requirements and necessary staffing levels required to implement a credible and defensible program.

Specifically, on 24 April 2003 staff testified that the monitoring requirements in their 10 April 2003 draft proposal represented their Best Professional Judgement on minimal monitoring requirements necessary to evaluate impacts to the state's waters. They also testified that they had insufficient staff resources to implement the program and monitor the conditions of the proposed waiver. The Board (in a contentious 4 to 3 vote) disregarded staff's professional judgment and directed them to reduce monitoring requirements and eliminate fees from the draft proposal. Pursuant to the Board's direction, a revised draft proposal containing a significantly weaker monitoring program and no fee requirements was circulated in late June 2003. At the 10 July 2003 hearing, staff again explicitly testified that the monitoring program included in the 10 April 2003 draft proposal represented their Best Professional Judgment on necessary minimal monitoring requirements. Direct testimony of Shakoora Azimi. Staff further testified that existing staff resources were insufficient to implement and monitor the conditions of the proposed waiver. Direct testimony and response to question by Bill Croyle.

The Weight Of The Evidence In The Record Demonstrates That Resolution No. R5-2003-0105 Contravenes All Available Scientific Evidence And That Waiver Conditions May Lead To Further Degradation Of Water Quality.

1. Degradation will continue to increase

A common thread running throughout the expert testimony is that waiver conditions are inadequate to identify and prevent impacts to waterways, aquatic communities and human health resulting from agricultural discharges. There is a consensus among the experts that it is possible or even likely that pollutant discharges and degradation will increase as a result of the adopted waiver.

With respect that the potential of the waiver requirements will lead to increased degradation, Dr. Lee wrote"[I]t is important to understand that the currently proposed monitoring program could readily lead to a worsening of the water quality conditions in Central Valley waterbodies, as a result of new or expanded discharges of pesticides and other hazardous chemicals from agricultural activities. The recommended approach of only monitoring 20 percent of the tributaries in a year is a technically invalid approach." Dr. Lee goes on to say that "… changing the use and types of pesticides used, can readily lead to greater aquatic life toxicity in the receiving waters for agricultural runoff/discharges in the Central Valley than is occurring today." Lee letter, 3 July 2003, page 8.

This potential was echoed by Dr. Benbrook who pointed out that market, pest and economic pressures could lead farmers to adopt practices that further degrade water quality while they delay investments in efficient and less toxic farming systems; "[f]or this reason, agricultural discharges under the proposed waiver may actually increase, rather than decrease or be maintained." Benbrook letter, 23 May 2003, page 10. Dr. Benbrook went on to state that the "…RWQCB's proposal provides little assurance that agricultural discharges will be significantly reduced for many years. In fact, it is far more likely, in my opinion, that thousands of California farms in the Central Valley will continue to discharge large quantities of pesticides, fertilizers, salts, sediment and other pollutants at levels which cause unacceptable degradation of surface and groundwater supplies. *Id*. In his 20 November 2002 letter, Dr. Benbrook stated that "[a]s currently structured the proposed waiver will result in little or no changes on the ground. In many parts of the State, water quality will continue to be degraded over the lifetime of this proposal. In some watersheds, loadings of long-recognized pollutants will increase and the severity of impacts will surely grow. In other areas, new pollutants will emerge as problems, often working in combination with existing pollutants to further erode the integrity of aquatic ecosystems."

Mr. Bond stated that "…continued worsening of water quality conditions is likely, and would not be detected under the proposed Waiver." Bond letter, 7 July 2003. Mr. Bond also wrote that "[t]hese requirements are not technically valid and the resulting monitoring plans can not be relied upon to detect water quality impacts in the receiving waters. Id at 3.

Dr. Kegley stated that "[b]ecause of the toxicity of many of the pollutants being discharged from agricultural operations, their mobility in the aquatic environment, the

'moving target' nature of the mixtures found in surface waters and the absence of any scientific studies quantifying the effectiveness of any management plans to control such discharges, in my opinion, it is equally likely that the draft waiver, if adopted, could result in increased pollution and significant environmental impacts to Central Valley waters from non-point source agricultural discharges." Kegley letter, 21 November 2002, page 6. Dr. Kegley also stated that "…implementation of a waiver without an enforceable mandate of pollution reduction is equally likely to result in *greater* pollution from agricultural sources…" Kegley letter, 24 May 2003, page 3. Dr. Kegley further observed that "[g]iven the lack of data proposed to be collected, it is likely that increased degradation to Central Valley waterways could occur and would go undetected." Kegley letter, 7 July 2003, page 1.

Terry Strange wrote "[I]n fact it is conceivable that water quality conditions could deteriorate under this monitoring plan as many areas and constituents will go unmonitored." Strange letter, 2 July 2003, page 2.

Dave Paradies commented that "[t]he absence of information to inform action would appear to establish a situation where water quality conditions are not likely to improve during the period of the waiver and may well become more degraded." Paradies letter, 7 July 2003, page 1.

Dr. Solomon wrote that "…the approach being taken by the Board, both in the Proposed Order and in the waiver that was adopted in December, are not adequate to prevent further serious degradation to water quality and drinking water supplies." Solomon letter, 23 May 2003, page 2. Dr. Solomon went on to extensively detail the risks that pollutants discharged by agriculture pose to human health. *Id.,* pages 2-10.

Resolution No. R5-2003-0105 and Order Nos. R5-2003-0826 and R5-2003-0827 propose an ineffective monitoring program, which will yield little useful information during the life of the waiver.

The waiver monitoring programs ignore the consensus recommendations of accredited experts and do not meet the stated goals of the waiver or the specific goals of the monitoring plan. For watershed groups, chemical analysis of most pesticides, metals, inorganic constituents and nutrients is not required until Phase II of the monitoring program. Monitoring and Reporting Program, Order No. R5-2003-0826 for Coalition Groups, pages 7, 8. Bioassessments are recommended but not required. Unfortunately, Phase II monitoring does not begin until two years after Phase I monitoring starts; i.e., July 2006. *Id*. at 5. The waiver expires in December 2005. There is no guarantee that the monitoring program will extend beyond the life of the waiver. The monitoring plan states that "major drainages will be part of baseline monitoring. At least 20% of intermediate drainages must be monitored during the first year and the second 20% during the second year, etc. Smaller drainages will be monitored if the evaluation of data from the larger drainages or receiving water indicates water quality problems." Monitoring and Reporting Program, Order No. R5-2003-0826 for Coalition Groups, page 10. Coalition members will determine what constitutes major, intermediate or small

drainages. *Id*. Consequently, only 20% of some unknown number of discharger determined intermediate drainages will be monitored for a truncated list of constituents during the life of the waiver. No smaller drainages are likely to be monitored prior to expiration. There is a serious discrepancy between the individual and group monitoring plans.

1. The monitoring plan will fail to achieve its state goals

Dr. Lee writes "…in order to reliably regulate the water quality impacts of irrigated agriculture on the water quality of the receiving waters, it will be necessary to monitor at the 'basin, drain and field' level." He further states that "[f]ailure to monitor all three levels will cause the CVRWQCB agricultural waiver monitoring program to fail to accomplish its goals of controlling the significant adverse impacts of Central Valley irrigated agricultural discharges. Lee letter, 3 July 2003, page 7.

Dr. Kegley opined that "[I]n my opinion, the latest proposed monitoring plan represents a retreat from even the minimalist requirements of the previous plan and is unlikely to provide sufficient data of useable quality to effectively meet the stated objectives of the monitoring plan." Kegley letter, 7 July 2003, page 1.

Mr. Bond stated that "[c]onsequently, under this Waiver pesticides and toxic metals may be released, not monitored and the impacts not identified, which contradicts the objectives of the MRP and is inconsistent with principles of a valid monitoring program. Bond letter, 7 July 2003, page 2. Mr. Bond goes on to say that "[t]he current Waiver is not protective of water quality. The MRP's are not adequate and are inconsistent with the purpose, goals and objectives of the Waiver and the MRPs." *Id* at 5.

Terry Strange observed that "[I]n my opinion, the monitoring plan fails to meet its stated specific objectives. Strange letter, 2 July 2003. He further observes that "…the revised MRP is less protective to the state's waters and beneficial uses than the greatly flawed MRP presented at the April 24, 2003 Regional Board hearing. *Id* at 4. Mr. Strange recommended that "[b]ioassessment studies should be mandatory throughout all phases of the monitoring program. Any effective monitoring program must encompass chemical analysis, toxicity testing, and bioassessments as a minimum. *Id* at 3.

2. The waiver monitoring programs will not provide the necessary data for an EIR or renewal of the waiver.

Dr. Lee commented that "[I]t appears that the proposed water quality monitoring program generation of water quality data and the need for these data in the implementation of the CVRWQCB agricultural waiver program are not properly linked." He goes on to point out that "[t]he phased implementation of the water quality monitoring parameters and the 20 percent per year monitoring of a watershed lead to a situation where the information that the Regional Board will need to extend the agricultural waivers in two years will not be available for at least six to possibly as many as ten years from when the monitoring program is implemented." Lee letter, 3 July 2003, page 11.

Terry Strange wrote that "…the data gathered through the monitoring plan will not provide sufficient information necessary to meet the projects needs of an environmental impact report and/or related documents. Strange letter, 2 July 2003, page 1.

Dave Paradies commented that "[w]e are concerned that the limitations of monitored parameters and time frame involved in the 'phased' approach will not effectively serve to support development of the EIR or initiate appropriate water quality protection during the proposed period of the waiver. Paradies letter, 7 July 2003, page 1.

Dr. Kegley stated that "[t]he monitoring requirements as proposed will not provide sufficient information for developing the proposed EIR and for meeting the five objectives of the monitoring plan." Kegley letter, 7 July 2003, page 1.

3. The waiver monitoring programs will not provide information on adverse impacts to aquatic life in smaller waterbodies

Numerous waterways will not be monitored or insufficiently monitored. Consequently, conditions of the waiver cannot protect these small unmonitored waterways. As Dr. Lee put it, "[t]he staff's proposed program will need to be expanded to fully comply with the monitoring requirements to determine the impact of irrigated agriculture's discharges on the beneficial uses of State waters. Of particular concern is the expansion of this program into the upstream tributaries of the Sacramento and San Joaquin Rivers. These tributaries can be important nursery grounds for fish and other aquatic life. Larva fish and their food are particularly vulnerable to adverse impacts of pesticides and other pollutants." Lee letter, 20 May 2003, page 2.

Terry Strange observes that "the MRP falls significantly short of its intended goal. It appears to me that the smaller headwater or upper reaches of river systems are being ignored with effort focused on the lower, mainstem reaches of tributaries and streams to their collective systems. With increased energy inputs, higher invertebrate production, spawning, nursery, and rearing habitat, and lower total discharges make these smaller aquatic systems vital to the overall health of the aquatic system. Strange letter, 24 May 2003, page 1. Mr. Strange's 2 July 2003 letter states that "[u]nfortunately, each individual tributary is scheduled to be monitored for only a period of one year, every fifth year. For a water quality monitoring program to be effective, every tributary should be sampled annually."

Dave Paradies observed "[s]taff's April 2003 proposal to require a monitoring point approximately every eight square miles is a step in the right direction but will not necessarily provide protection for the state's waters" because "[s]maller tributary streams often supply the most important aquatic habitat for fish and other organisms. It is important that these streams not be neglected in favor of main stem monitoring." Paradies letter, 23 May 2003, page 9. Of course, staff's inadequate April 2003 proposal proposed monitoring requirements were severely weakened in the adopted document.

Dr. Kegley wrote that that "[a] greater focus on these smaller tributaries is appropriate for several reasons: 1) the law applies to all water bodies in the state, not just the larger waterways, 2) little information has been collected on the adverse effects of agricultural discharges on the smaller tributaries, 3) high water quality in the small tributaries is critical for the reproductive success of fish and other aquatic species, because these areas serve as spawning grounds and nurseries for these organisms, and 4) the volume and flow of these waterways is lower than that of the major waterways such as the main stem of the Sacramento, Feather, or San Joaquin Rivers, thus discharges are likely to have a greater impact on the stream biota because they will not be diluted sufficiently to reduce toxicity." Kegley letter, 24 May 2003, page 2.

4. The monitoring programs inadequately sample necessary constitutents

The waiver monitoring programs fail to adequately monitor, at an acceptable frequency, the range of constituents that have the potential to harm or already have been identified as harming waters of the state. Consequently, the waiver cannot be protective of water quality. While those enrolled in individual waivers must initially monitor for Total Kjeldahl Nitrogen, phosphorus and potassium and pesticides and metals (if used), groups are not required to monitor for these constituents during Phase I (i.e., the life of the waiver). Important constituents like arsenic selenium and boron are absent in monitoring requirements for individuals and relegated to Phase II in group monitoring requirements. Other crucial constituents, like ammonia, are totally ignored.

Steven Bond wrote "I found that the earlier proposed MRP (April 2003) was too general in certain respects and that it contained loop holes that could easily result in the collection of monitoring data that would be less than adequate. Now, I find that the modified versions of the MRPs are even less protective of water quality." Bond letter 7 July 2003, pages 1, 2. Mr. Bond went on to observe that"[t]he MRPs fail to require monitoring of key pollutants associated with agricultural operations. Toxic metals and non metals, pesticides, and nutrients from the various discharges of agricultural operations are not required." *Id* at 2. "Specific language directing the dischargers to monitor for individual pesticides, toxic metals and non metals, and nutrients must also be incorporated into the MRPs" and "[s]pecific language directing the agricultural dischargers to sample the points of discharge must be incorporated into the MRPs." *Id at 5*.

Dr. Kegley commented that "[b]ecause the waiver expires in December 2005, Phase I monitoring (with the first report due April 2005) must include monitoring for specific constituents (pesticides, metals, nutrients). Available toxicity tests are not sufficient to identify all toxicity, and monitoring that is not required until the waiver expires is unenforceable and may never be required." Kegley letter, 7 July 2003, pages 1, 2. Dr. Kegley also said "[a]ll points of discharge to waterways should be mapped, monitored (constituents and flow) and correlated with chemical inputs specific to the location for that year." *Id* at 1.

Dr. Lee stated that "[t]his approach is not technically valid in reliably detecting water quality impacts of irrigated agriculture stormwater runoff and tailwater and drain water discharges." Lee letter, 3 July 2003, page 8. Dr. Lee observed that " PCBs should also be analyzed for, since previous work on fish tissue residues from agricultural drain fish have shown that some of them have excessive PCBs" and "dioxins and furans" as there are "agricultural sources of dioxins, which need to be evaluated" and "…requiring that pesticide monitoring be delayed until the second phase is inappropriate." *Id* at 5. Dr. Lee further observed "[b]oth total and dissolved metals should be monitored" as total metals "can contribute to excessive metal concentrations in sediments." *Id* at 6. He also commented that "ammonia must be added to this list so that it is possible to calculate organic nitrogen …." since "[a]mmonia is a toxicant" and " a source of oxygen demand." *Id*. Additionally, Dr. Lee stated that "[t]here is need to monitor oxygen demand parameters such as BOD_{10}, ammonia, chlorophyll and pheophytin in any situation where there is a DO concentration below the water quality objective at the sampling location and downstream." *Id* at 7. He opposed delaying nutrient loading until "Phase II or III" because "[n]utrients from agricultural sources are causing major water quality problems in the Central Valley…" *Id*. He also stated that monitoring must be conducted at the "basin, drain and field level" in order to "reliably regulate the water quality impacts if irrigated agriculture on the water quality of the receiving waters." *Id*. With respect to sampling frequency, Dr. Lee stated that the program should require monitoring of three storms over the season focusing on the first major storm, mid winter and a late March - April storm" as "[t]here are sufficient differences in the characteristics in early and late winter season agricultural runoff…" and "[t]he non-stormwater runoff monitoring should, in addition to monthly sampling, be designed to sample tailwater discharges shortly after application of chemicals to the agricultural lands." *Id* at 8.

Terry Strange wrote that "By the time Phase II monitoring is initiated in July of 2006, the waiver will have expired. If the waiver is not extended, many of the important water quality parameters identified for sampling in Phase II and Phase III may not be sampled. I recommend that each monitoring phase be completed in consecutive years with all water quality parameters sampled every year." Strange letter, 2 July 2003, page 3. Mr. Strange further observed that "[t]he identified constituents are but a short list of the full compliment of minerals and organic chemicals available to the agriculture industry. Absent from Table 1. *Constituents to be Monitored* include sulfur (sulfides), ammonia, nitrate, ortho-phosphate, chlorophyll a, and pesticides specific to what is applied to the watershed." *Id* at 3, 4.

Mr. Paradies commented that "[t]able 1 parameters should be expanded to include additional parameters already known to cause or indicate water quality impairment." Paradies letter, 7 July 2003, page 3. Additionally Mr. Paradies recommended that "dissolved oxygen and saturation," "nitrate," ammonia," ortho-phoshate," and "chlorophyll" should be measured. *Id*. He further observed that "[m]onitoring of 'legacy' chemicals such as DDT and PCBs in sediment and tissue should be included in early stages of the monitoring program to establish requirements for ongoing testing of these substances." *Id*.

5. Toxicity tests cannot serve as a surrogate for chemical assessment

The waiver monitoring program places an unsupportable emphasis on toxicity testing as a surrogate for a technically defensible monitoring program. As toxicity testing cannot identify all toxicity, it cannot serve as an acceptable substitute for a robust monitoring program.

Dr. Lee commented that "…toxicity measurements are not an effective screen for pesticide-caused aquatic life toxicity, except at high levels of pesticides. Pesticides such as diazinon and chlorpyrifos, can be present in water at toxic levels and not cause toxicity to aquatic life in the standards tests specified in the monitoring requirements." Lee letter, 3 July 2003, page 6.

Dr. Kegley observed that "[a]vailable toxicity tests are not sufficient to identify all toxicity…" Kegley letter, 7 July 2003, page 2.

Terry Strange stated that "[t]oxicity tests have been identified as a critical component of the monitoring program. However, the toxicity tests and methodologies as described in Monitoring Phase I are inadequate to detect and categorize toxicity as a whole." Strange letter, 2 July 2003, page 2.

Steven Bond wrote "[a]lthough toxicity testing is required in Phase I, an acute 96-hour test is specified. Acute toxicity testing does not account for all forms of toxicity." Bond letter, 7 July 2003, page 2.

Dave Paradies said "[w]ith respect to the MRPs guidance on toxicity testing, toxicity testing methods which identify sub-lethal effects should also be conducted." Paradies letter, 7 July 2000, page 3.

6. The waiver monitoring programs will not provide sufficient information to evaluate the effectiveness of agricultural management measures that will be implemented

Dr. Kegley wrote that "…the monitoring plan will in no way provide an accurate picture of water quality in the highly-impacted Central Valley waterways, nor will it provide a means to measure the effectiveness of any Best Management Practices that might be implemented." Kegley letter, 7 July 2003, page 1.

Dr. Benbrook stated that "[o]ne of the most glaring inadequacies in the plan is a mechanism to assure credible ongoing monitoring of the efficacy of remedial actions taken to meet performance targets." Benbrook letter, 23 May 2003, page 9. Dr. Benbrook pointed out that, if the Board emphasizes "adoption of a set of recommended practices, as opposed to documented reductions in pollutant loadings, then the program must include a method to determine whether the practices are being implemented properly, on the correct lands, such that the projected and hoped for benefits from the practices are actually being realized." *Id.* He then observed that "[e]xtensive reliance on

monitoring of BMP effectiveness has proven an essential ingredient for successful implementation of nonpoint pollution control initiatives in other states." *Id.*

Steven Bond opined that the monitoring program "…will deliver misleading and incomplete information with respect to receiving-water quality conditions. This will result in contradictory or ambiguous conclusions with respect to the performance of any mitigation measures, or lack thereof, at the agricultural operation." Bond letter, 7 July 2003, page 3. Mr. Bond further stated that "[I]n order to evaluate the individual pesticides and other toxic chemicals applied to agricultural lands, the chemicals must be identified, the amounts and schedule of application must be defined. Most importantly, water samples must be collected at the point of discharge from the land…" *Id.*

Dr. Lee observed that "[t]he June 24, 2003, draft revised monitoring program fails to present the complexity of trying to properly evaluate the range of management practices under the variety of conditions that these practices will have to operate under in the various agricultural settings in the Central Valley." Lee letter, 3 July 2003, page 9.

Dave Paradies stated that "[t]he phased approach to monitoring does not appear to support this objective of the MRP [management practice effectiveness monitoring]." Paradies letter, 7 July 2003, page 4. Mr. Paradies went on to say "[t]he need for baseline data collected at specific frequencies to account for temporal variability, strategically selected sites to account for spatial variability are just a few of the considerations that are not well served by a phased program nor an uncoordinated array of individual programs." *Id.*

The Resolution's Failure To Impose Fees Harms The Public Interest By Forcing The Costs Of Pollution Onto The Taxpayers.

Any program that is under-funded, under-staffed and under-implemented continues the transfer of the costs of pollution from polluter to the general public. This externalization of the costs of pollution is not in the public interest. The waiver adopted in December by the Regional Board contained no fee provisions. Subsequently, staff proposed a revised waiver in April 2003 that contained a modest fee structure. Staff was instructed at the 24 April 2003 Regional Board hearing to delete all references to fees. Consequently, the waiver adopted 10 July 2003 includes no provision for fees to support the program. In response to a question at the 10 July 2003 hearing, waiver unit chief Bill Croyle stated that staff had calculated that it would require twenty-four persons to minimally oversee a program that included a combination of 300 individual or group waivers. This figure is more than five times existing staff levels. Staff admits that it is likely to receive more than 300 waiver applications. Environmental petitioners repeatedly testified that it was critical that fee provisions be included in any adopted waiver to provide a revenue-stream to justify additional staff necessary for an effective program.

The experts also recognized the critical necessity of sufficient funding. Dr. Lee commented that "[I]n addition to the substantial funds needed for monitoring and

evaluation of the water quality significance of exceedances of numeric and narrative water quality objectives, there is need for substantial funding to be made available to the CVRWQCB to hire mid-and high-level staff to work with the agricultural discharges in data/report review. It is estimated that between 30 and 40 additional staff will be needed to properly implement the proposed program. If the CVRWQCB does not receive substantial additional funding, the agricultural waiver monitoring program as proposed will not accomplish the state goals and will represent a superficial approach toward reliably defining and managing the significant water quality impacts of irrigated agriculture stormwater runoff and tailwater discharges." Lee letter, 3 July 3003, page 9. He observed "[t]he situation that exists now with respect to regulating urban stormwater runoff, where data are gathered but there are no staff to critically evaluate the stormwater runoff data and take action where problems exist, will become prevalent in the agricultural waiver monitoring program." *Id*. Dr. Lee goes on to say "[f]ailure to provide adequate funding to the CVRWQCB will result in another mandated program at the Regional Board level that is not adequately implemented." *Id* at 10. He concludes by stating "[I]n order for the CVRWQCB to implement a technically valid, cost-effective program of managing the water quality impacts from irrigated agricultural discharges/runoff, funds must be made available to implement a comprehensive monitoring program throughout the Central Valley that can serve as a valid basis for regulating stormwater runoff and tailwater/drain water discharges." *Id* at 11.

Steven Bond wrote "[u]nless the Regional Board envisions many years of accumulating massive piles of unread reports, it is mandatory that the Regional Board have sufficient staff and therefore funding for the staff to evaluate monitoring results." Bond letter, 10 July 2003, page 5.

Dr. Benbrook commented that "[t]he watershed approach requires substantial staffing resources by the Regional Board." Benbrook letter, 23 May 2003, page 6. He pointed out that this was because "[t]he watershed approach adds a second (and perhaps a third) layer of complexity to the institutional challenges lying ahead, since the process driving change must be perceived as fair and equitable across farms within a watershed group, plus it must achieve a minimally acceptable degree of reduction in discharges in each subwatershed and watershed, plus it must impose reduction goals across watersheds in an equitable manner. The RWQCB will ultimately be responsible for this multi-layer balancing act and should not underestimate the importance of a skillful, credible job in equitably 'spreading the pain.'" *Id*. He observed "[a]ccording to the Staff PowerPoint Presentation from the 24 April 2003 Board Meeting Regional Board staff anticipate requiring 10 to 30 person-years (PYs) to implement the proposal assuming that 100 to 1,000 individuals and watershed groups request to comply under the conditional waiver. This presentation also notes that Board currently only has 4.1 PYs dedicated to this function." *Id* at 7. Dr. Benbrook cautioned that "I believe that the Regional Board's estimates for additional staffing are unrealistic and far too low given the complex nature of the program being proposed and the institutional and political headaches you are inadvertently designing into the process. I suspect all Board members recognize that the Regional Board cannot design and oversee implementation of a program that effectively controls discharges from some seven million acres of irrigated farm-land in the Central

Valley with a staff of four. In light of recent and likely future budget cuts, I understand the prospects for receiving additional new funds from the state's General Fund are unlikely. Accordingly, you must impose a fee structure sufficient to cover essential staff and oversight functions. *Id.*

As noted by Jonathan Kaplan, Project Specialist at NRDC, during the July 10th hearing, the funding necessary staff a modest regulatory program can be levied through a regulatory fee posing nearly insignificant at the farm level. For example, a regulatory fee that averages just $1.35 per acre farmed is sufficient to generate $9.5 million, enough to fund 73 PYs at the Regional Board (Central Valley Regional Water Quality Control Board, Irrigated Lands Conditional Waiver, Power Point Presentation by Bill Croyle, April 24, 2003).[1] According to the Regional Board staff presentation, 73 PYs would enable the Board to implement a program to regulate agricultural discharges that is comparable to its regulation of discharges of stormwater from industrial and construction sites – a staffing level significantly higher than Regional Board staff have proposed for implementing the adopted conditional waiver.

Even this expanded staffing scenario is unlikely to require a significant regulatory cost to growers, however. In California, the average per-acre value of farmed commodities was approximately $2,000 in 2001. (Testimony by Jonathan Kaplan, July 10, 2003 hearing, citing data from California Farmer, California At-a-Glance, 2001). Thus, on average, a$1.35/acre regulatory fee would comprise just 0.067%, less than one tenth of one cent on the dollar, of the average gross crop value. In light of the woeful understaffing suffered by the construction and industrial stormwater permit programs, the Board might consider doubling staff's proposed scenario to 146 PYs, which would still cost growers only 0.13% of their commodity value.

This exercise demonstrates that when divided amongst thousands of dischargers managing millions of acres of land, a modest regulatory program can be adequately funded without posing significant economics impacts to regulated dischargers. As both we and our experts have repeatedly stated, the adoption of any regulatory program without a realistic funding source to implement it is irresponsible and against the public' interest.

The Resolution's Reliance On Polluter Coalitions As Mechanisms For Implementing Conditions Harms The Public Interest.

1. Large polluter coalitions are unlikely to be successful

The commenting experts have considerable experience and expertise in the development and implementation of watershed, monitoring and pollutant reduction programs. The consensus of these experts was that the waiver's proposed polluter coalitions are likely to be unwieldy and ineffective in monitoring and reducing pollutant discharges.

[1] According to the presentation, there are approximately 7 million acres of irrigated agriculture in Region 5. $1.35/acre is calculated by dividing $9.5 million by 7 million acres.

Steven Bond stated "[t]he concept of Watershed Groups in the proposed Waiver is confusing and these Watershed Groups are likely to create organizational problems, they are likely to be ineffective, and they are likely to increase the work load on Regional Board staff." Bond letter, 7 July 2003, page 4.

Dr. Kegley observed that '…the size of the proposed watershed groups ( ) is far too large to be workable" and "[s]maller watershed groups focused on a particular tributary would be much more effective in targeting specific pollutants and their sources." Kegley letter, 24 May 2003, page1, 2. She further said "[t]he large scale 'watershed groups' (more appropriately labeled as 'discharger groups') cover too wide an area and involve too many people to perform effectively." Kegley letter, 7 July 2003, page 2.

Dave Paradies wrote that "[f]or the use of watershed groups to be effective, they must be sized and scaled in a fashion which produces the desired results." Paradies letter, 23 May 2003, page 1. Mr. Paradies noted that ongoing watershed approaches on the Central Coast were expected to ultimately involve between 50 and 100 groups and observed that "[t]he most effective size is at approximately the sub-watershed scale. Since watershed management is essentially a 'place based' technique, the concept of very large watershed groups may not be workable." *Id* at 3.

Dr. Benbrook states that "[n]owhere in the RWQCB's proposal is there a discussion or recognition of the institutional and cultural complexities that lie ahead if watershed groups are to be responsible for mitigating environmentally harmful discharges. The essential ingredients for effective watershed planning and BMP implementation are not addressed…" and "[t]he RWQCB simply assumes these necessary ingredients for constructive change will instantaneously materialize when needed, an assumption I regard as reckless under the current circumstances in the State." Benbrook letter, 23 May 2003, page 3. Dr. Benbrook comments that "…the RWQCB should not place its faith in an untested institutional approach, which might be partially effective in a few watersheds but which will almost surely prove a failure in many others, if not the majority." *Id* at 4. He was particularly critical of massive watershed groups and said "[t]he creation of such large groups, encompassing such a diversity of crops, farming systems, and discharge patterns, would further limit the Regional Board's ability to identify priority water quality impacts, sources and pollution-prevention opportunities within each group. Groups of this size also further insulate individual growers from accountability and erode incentives for growers willing and inclined to act now to begin experimentation with novel combinations of BMPs." *Id*. Dr. Benbrook observed that "[a]gricultural practitioners can reduce their individual liability by joining groups, where there is no clear mechanism to ensure that any individual farm or field discharges are reduced. The larger the group, the less accountability there is for any given individual grower." *Id*. He predicted that "[t]hese groups will attain budgets, staffs and a life of their own. It is predictable that over time their mission will be dominated by efforts to delay and dilute RWQCB-required steps to limit pollutant discharges." *Id* at 5.

Terry Strange observed that the watershed-based proposal adopted by the Board is "…far removed from the successful multi-stakeholder models found throughout the state" and suggested that "[t]he watershed group concept outlined in the revised document sets the MRP up for immediate failure" and "[t]his program of very large representation within the watershed groups is a recipe for disaster." Strange letter, 2 July 2003, page 2. Mr. Strange went on to say that "[t]he number of required watershed groups within a watershed must be determined by the watershed characteristics and not based on arbitrary decision making processes. Watershed groups must be watershed specific, including many subwatershed specific groups within larger watershed and drainage basins. Furthermore, my experience with watershed groups has shown that watershed efforts focused on large-scale watersheds are much less effective than groups focused within subwatersheds. *Id*.

2. Failure to include goals, performance standards and accountability undermines the coalitions

The experts stressed that any defensible and effective program must include goals, performance standards and accountability. Unfortunately, the adopted waivers contain none of these necessary components.

Dr. Kegley stated that "…the present plan has no framework for requiring reductions in pollutant discharges, no timeline for reduction of pollutant loading, and no accountability for dischargers who continue to pollute. There are no examples of which I am aware where large watershed groups have been successful at reducing pollution in the absence of a regulatory framework that constructs a timeline for reducing discharges and includes penalties for water quality violations." Kegley letter, 24 May 2003, page 3. She recommended that "[a]ccountability should be built into the monitoring plan. There need to be discreet goals and a timeline for reducing agricultural inputs and meeting performance standards for agricultural discharges." Kegley letter, 7 July 2003, page 2.

Dr. Benbrook stated that "[s]ystemic change requires accountability from individual growers, one field at a time." Benbrook letter, 23 May 2003, page 5. He commented on the failure to establish performance targets and said "[e]veryone involved in the process needs to have absolute clarity on two things - what the goals are and how/why they will be incrementally refined, and how progress will be measured in achieving goals. Without such clarity, no one will ever know what is expected of them…" *Id* at 9. Dr. Benbrook discussed the Rice Pesticides Program and Kesterson Grassland Watershed and pointed out that "…progress in implementing remedial measures occurred only as a result of credible, imminent threats of state and/or federal regulatory interventions." *Id* at 8. He stated the need for "…specific protocols, requirements, and performance standards that individual growers can follow and work to achieve in step-wise fashion through onfarm data collection and innovation." *Id* at 5. Dr. Benbrook further recommended that the program "[c]learly describe to farmers what they have to accomplish to reduce discharges, both in the near-term (first steps) and the long-run (ultimate goals)," " [p]rovide them an appropriate period of time to accomplish each essential step, or meet each new performance target," "[d]emonstrate to them how they

can monitor compliance with performance standards and how others will judge their performance/compliance," and "[p]resent clear and credible consequences for growers that do not attain interim targets and final goals." *Id* at 6.

3. The Program must require individual farm-based pollution prevention plans.

The ill-advised decision by the Regional Board to regulate discharges from irrigated lands through large coalitions of dischargers effectively shields individual farmers from accepting responsibility to implement effective management measures to reduce pollution. The Board's failure to require individual farmers to prepare farm-based pollution prevention plans ensures that there will be little nexus between large coalition groups and site-specific on-the-ground efforts to reduce agricultural pollution.

Dr. Benbrook strongly recommended that "the proposal be revised to require individual growers to complete a farm-specific monitoring and planning process that includes development of verifiable pollution prevention goals, with attainment measured against a baseline established through the monitoring of edge-of-field discharges." Benbrook letter, 23 May 2003, page 6.

The Resolution Is Against The Public Interest Because The Most Pervasive Agricultural Pollutants Can Be Reduced Through Available Management Practices, Indicating That California's Water Quality Can Be Improved Without Disrupting The Agricultural Economy.

Dr. Benbrook wrote, "the State's water quality control boards have an opportunity to raise the profile of water quality objectives as agricultural innovation unfolds across the Central Valley. The current proposal for the most part passes this opportunity by and will, in the end, increase the costs of dealing with long-recognized problems, while raising the political and public health stakes." Benbrook letter, 20 November 2003, page 5.

NRDC submitted a study titled *A Review of Available Best Management Practices for Reducing Agricultural Discharges to Waterways in California's Central Valley*, December 2002 to the Regional Board. That study is part of the record of this proceeding. It concludes, "Central Valley growers have repeatedly demonstrated that agricultural pollution of California waterways can be sizably reduced and, in many instances, eliminated. Many of these efforts are inexpensive; some will more than pay for themselves. With the right regulatory incentives and assistance, Central Valley growers could implement many of the practices reviewed here."

The Resolution is Against the Public Interest Because Agricultural Pollutants Pose a Clear Threat to Human Health.

Dr. Gina M. Solomon is a researcher and Professor of Medicine at the University of California San Francisco, an Attending Physician in the Division of Occupational and Environmental Medicine and a consulting physician at the University of California's

Pediatric Environmental Health Specialty Unit. She served on the Steering Committee of 'Pesticides and Education for Health Providers,' the Endocrine Disruptor Screening and Testing Advisory Committee for the U.S. EPA and is a member of the California Expert Working Group on Environmental Health Tracking.

Dr. Solomon wrote that "'[w]e have identified numerous deficiencies in the Regional Board's proposals for regulating agricultural discharges, including their dependence on unspecified watershed groups, inadequate individual accountability, failure to identify individual discharges, lack of an adequate regulatory fee mechanism and the failure to impose clear goals and performance standards, among other deficiencies." Solomon letter, 23 May 2003, page 2.

Dr. Solomon noted that "[f]ifty percent of California's population - some 16 million people - depend on groundwater for its drinking water supplies" and "more than a third of the areal extent of groundwater assessed in California is so polluted that it cannot fully support at least one of its intended uses, and at least 40 percent is either impaired by pollution or threatened with impairment. Salinity, organic compounds, pesticides, nutrients, and metals are among the most significant types of contaminants that threaten groundwater basins in California." *Id*. She pointed out that "[a]ccording to the California Department of Water Resources, three-fourths of the impaired groundwater in California has been contaminated by salinity, pesticides, and nitrates, primarily from agricultural practices." *Id* at 3. Dr. Solomon discussed the adverse health impacts of excessive nitrates on infants and pregnant women. *Id* at 3, 4.

Dr. Solomon also observed that "[a]reas where the drinking water is supplied from surface water sources are also facing serious problems related to agricultural pollutants, particularly pesticides." *Id* at 3. She quoted from an attached CalPirg report that revealed that over one hundred one pesticides and related compounds were detected in he state's drinking water sources during the 1990's. Pesticides were detected in the sources of water suppliers serving 16.5 million people in 46 of California's 58 counties. *Id*. She stated that "[m]any pesticides in current use are toxic to living organisms and have the capacity to affect biological systems in non-target organisms, including humans. There is a substantial body of laboratory and epidemiological evidence suggesting that certain pesticides may be associated with carcinogenesis, immunotoxicity, neurotoxicity and behavioral impairment, reproductive dysfunction, endocrine disruption and developmental disabilities, skin conditions, and respiratory diseases including asthma. *Id* at 4. Dr. Solomon then discussed, at length, the potential human health effects from pesticide exposure. *Id* at 4-7.

She closed by writing "[a]s a result of the significant health risks associated with pesticides and nitrates in drinking water, it is particularly important that the Regional Board take aggressive steps to assure source water quality in California by stringently regulating agricultural discharges." *Id* at 7. Regional Board Members and staff failed to acknowledge, respond to or refute Dr. Solomon's comments.

5. THE MANNER IN WHICH THE PETITIONERS ARE AGGRIEVED.

Please see August 11, 2003 Petition.

6. THE SPECIFIC ACTION BY THE STATE OR REGIONAL BOARD WHICH PETITIONER REQUESTS.

Please see August 11, 2003 Petition.

7. A STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION.

Please see August 11, 2003 Petition.

8. A LIST OF PERSONS, IF ANY, OTHER THAN THE PETITIONER AND DISCHARGER, IF NOT THE PETITIONER, KNOWN BY THE REGIONAL BOARD TO HAVE AN INTEREST IN THE SUBJECT MATTER OF THE PETITION. SUCH A LIST SHALL BE OBTAINED FROM THE REGIONAL BOARD.

Please see August 11, 2003 Petition.

9. A STATEMENT THAT THE PETITION HAS BEEN SENT TO THE APPROPRIATE REGIONAL BOARD AND TO THE DISCHARGERS, IF NOT THE PETITIONER.

A true and correct copy of this supplement was mailed via First Class mail on August 21, 2003 to the Regional Board at the following address:

Thomas Pinkos, Executive Officer
California Regional Water Quality Control Board
Central Valley Region
3443 Routier Road, Suite A
Sacramento, CA 95827-3003

10. A COPY OF A REQUEST TO THE REGIONAL BOARD FOR PREPARATION OF THE REGIONAL BOARD RECORD, INCLUDING A COPY OF THE TAPE RECORDING OF THE REGIONAL BOARD ACTION OR A TRANSCRIPT, IF AVAILABLE.

Please see August 11, 2003 Petition.

If you have any questions regarding this supplement, please contact Michael Lozeau at (650) 725-4217 or Sejal Choksi at (415) 856-0444 x107.

Dated: August 21, 2003

Respectfully submitted,

Michael Lozeau
Earthjustice

Sejal Choksi
WaterKeepers Northern California

Counsel for Petitioners